

Cisco 1000 Series

This chapter provides information on the Cisco 1000 series products. The information is organized into the following sections:

- Product Overview
- Cisco 1001 LAN Extender
 - Standard Features
 - Software
 - Options
- Cisco 1003 and Cisco 1004 ISDN Routers
 - Standard Features
 - Software
 - Options
- Cisco 1005 Serial Router
 - Standard Features
 - Software
 - Options

Note Documentation for the Cisco 1000 series is available in two forms: on a CD-ROM called Cisco Connection Documentation, Enterprise Series (formerly called UniverCD) and printed books. You can request a free copy of the documentation CD when you place an order and have the option of subscribing to a CD update service. Installation documentation ships with each chassis, and a configuration note ships with each component ordered. All configuration notes are available on the CD.

You can also access Cisco technical documentation on the World Wide Web URL <http://www.cisco.com>. For more information, see the chapter “Documentation” at the end of the catalog.

Product Overview

The Cisco 1000 series LAN extenders and routers are easy-to-install, inexpensive, multiprotocol access products designed for small offices and other remote sites.

There are currently four Cisco 1000 series models:

- Cisco 1001 LAN extender
 - One Ethernet port with AUI (DB-15) and 10BaseT (RJ-45) interfaces
 - One synchronous serial WAN port that supports V.35 (Winchester)
- Cisco 1003 ISDN router
 - One 10BaseT Ethernet port (RJ-45)
 - One ISDN BRI WAN port (RJ-45)
 - One console port (RJ-45)
 - One Type-2 PCMCIA slot for Flash ROM card
- Cisco 1004 ISDN router
 - One 10BaseT Ethernet port (RJ-45)
 - One ISDN BRI WAN port (RJ-45), with an integrated NT1 device
 - One console port (RJ-45)
 - One Type-2 PCMCIA slot for Flash ROM card
- Cisco 1005 serial router
 - One 10BaseT Ethernet port (RJ-45)
 - One serial WAN port (DB-60) that supports asynchronous serial communications using EIA/TIA-232 and the following synchronous serial interfaces: EIA/TIA-232, EIA/TIA-449, V.35, X.21, and EIA-530
 - One console port (RJ-45)
 - One Type-2 PCMCIA slot for Flash ROM card

Cisco 1001 LAN Extender

The Cisco 1001 LAN extender supports Cisco's LAN extension software, which provides a seamless connection between a remote-site LAN and a central-site LAN. The Cisco 1001 at the remote site connects to Cisco host routers at the central site using permanent synchronous serial lines running at up to T1/E1 speeds (2.048 Mbps).

All configuration and management for the Cisco 1001 LAN extender is performed at the central site through the Cisco router. The LAN extender can connect to a Cisco 2500 series, Cisco 4000 series, Cisco 7000 series, or AGS+ router running Cisco IOS Release 10.2(2) or later.

Figure 88 Cisco 1001 LAN Extender Front Panel

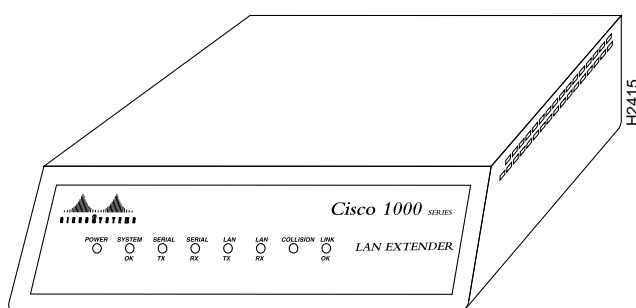


Figure 89 Cisco 1001 LAN Extender Rear Panel

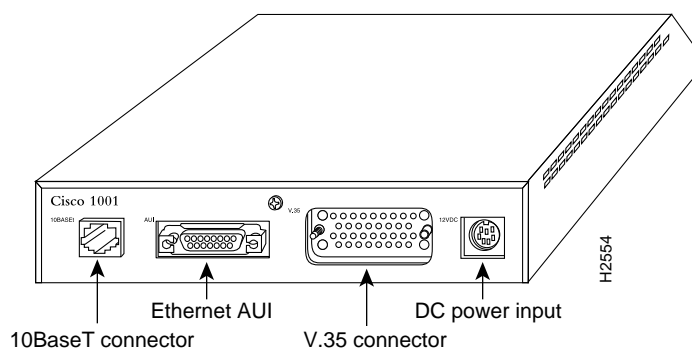


Table 190 Cisco 1001 LAN Extender Summary of Features

Characteristic	Features
Model 1001 interfaces	1 Ethernet: AUI ¹ (IEEE 802.3 DB-15) 10BaseT (RJ-45) 1 V.35 synchronous serial (Winchester connector)
Processor type	MC68360
Software	Ships with the LAN extender
Dimensions (H x W x D)	1.75 x 8.0 x 8.3" (4.4 x 20.3 x 21 cm)

Characteristic	Features
Weight	2.0 lb (0.9 kg) shipping weight
Product number	CISCO1001

1. AUI = attachment unit interface.

Table 191 Cisco 1001 LAN Extender Environmental Specifications

Description	Specification
Input power	12 VDC External power supply: 100 to 240 VAC at 50 to 60 Hz
Power dissipation	12W (maximum) 135.5 Btu/hr
Frequency	50 to 60 Hz
Operating temperature range	32 to 104°F (0 to 40°C)
Nonoperating temperature range	–40 to 185°F (–40 to 85°C)
Humidity (noncondensing)	10 to 90%

Standard Features

The Cisco 1001 LAN extender includes the following features:

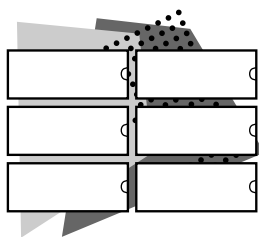
- AC-to-DC power supply
- Six-foot AC power cord
- MAC address on shipping carton label
- Easy installation—LAN extension software ships with the LAN extender

Software

Table 192 lists the LAN software for the Cisco 1001 LAN extender.

Table 192 Cisco 1001 LAN Extender Software Features

Category	Description
LAN support	LAN extension
WAN services	PPP
WAN optimization	Priority queuing, protocol filtering
Management	At central site on host router



Options

Options for the Cisco 1001 LAN extender are listed in Table 193.

Table 193 Cisco 1001 LAN Extender Options

Description	Product Number
DTE V.35 cable (shielded 3-meter, male-to-male)	CAB-V35MTS
AC power supply	PWR-1000-AC1=

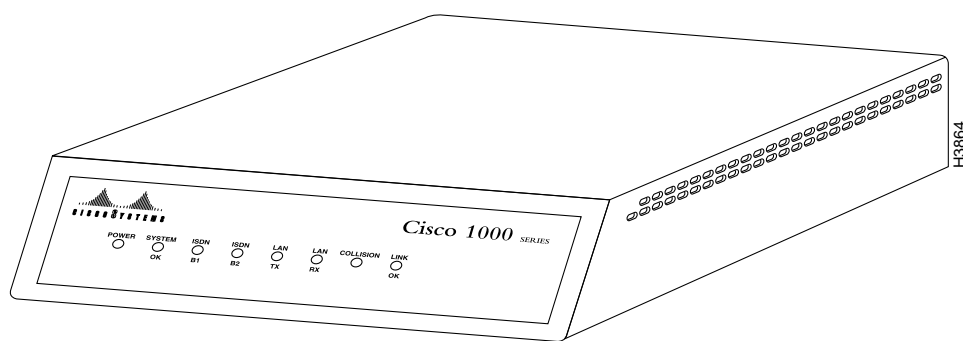
Cisco 1003 and Cisco 1004 ISDN Routers

The Cisco 1003 and Cisco 1004 routers are small, desktop routers that connect small, remote sites with Ethernet LANs to ISDN WANs.

The main difference between the two routers is that the Cisco 1004 router includes an integrated network termination 1 (NT1) device and the Cisco 1003 router does not. The ISDN service provider supplies the NT1 connection worldwide, except in North America, where the NT1 device is supplied by the customer. Therefore, the Cisco 1004 router is for use in North America, and the Cisco 1003 router is applicable worldwide.

The front view of the routers look the same.

Figure 90 Cisco 1003 and Cisco 1004 Front Panel



The rear view of the routers look the same except for the following differences:

- The BRI port on the Cisco 1003 is labeled “ISDN S/T,” and “Cisco 1003” is stamped on the upper left corner of the chassis (not illustrated).
- The BRI port on the Cisco 1004 is labeled “ISDN U,” and “Cisco 1004” is stamped on the upper left corner of the chassis (not illustrated).

Figure 91 Cisco 1003 and Cisco 1004 Rear Panel

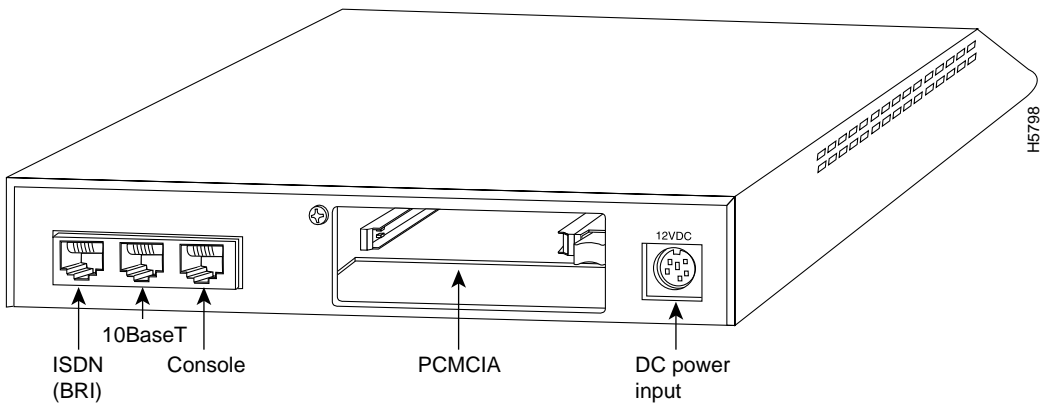


Table 194 Cisco 1003 and Cisco 1004 Summary of Features

Characteristic	Feature
Supported network interfaces	ISDN BRI (RJ-45) ¹ Ethernet 10BaseT (RJ-45) Console port (RJ-45) (EIA/TIA-232)
Processor type	Motorola 68360
Software	IP, IPX, AppleTalk routing and bridging over ISDN. See Table 196, Table 197, and Table 198.
Dimensions (H x W x D)	1.75 x 8.0 x 8.3" (4.4 x 21 x 20.3 cm)
Weight	2.0 lb (0.9 kg) shipping weight
Product numbers	CISCO1003 and CISCO1004

1. The ISDN BRI port is labeled “ISDN S/T” on the Cisco 1003 router and “ISDN U” on the Cisco 1004 router. The Cisco 1004 router includes an integrated NT1 device.

Table 195 Cisco 1003 and Cisco 1004 Environmental Specifications

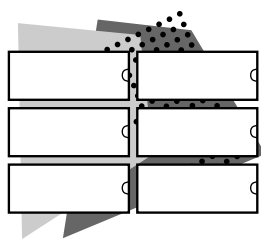
Description	Specification
Power	Cisco 1003 and Cisco 1004: 12 VDC output, minimum 0.5 A Desktop external power supply: 100 to 240 VAC at 50 to 60 Hz, 1.0A input Wall-mount external power supply: 120 VAC at 60 Hz input (for Cisco 1004 routers used in North America only)
Operating temperature range	32 to 104°F (0 to 40°C)
Nonoperating temperature range	–40 to 185°F (–40 to 85°C)
Operating humidity (noncondensing)	10 to 90%



Standard Features

The Cisco 1003 and Cisco 1004 routers include the following standard features:

- One Ethernet 10BaseT port with an RJ-45 connector
- One ISDN BRI port with an RJ-45 connector (the Cisco 1004 router includes an integrated NT1 device)
- One console port with an RJ-45 connector
- Console cable kit and power supply
- One external PCMCIA slot for optional Type-2 Flash memory card
- Software booting over an Ethernet LAN using TFTP
- Optional Flash memory card to store software image and configuration files, allowing network-independent booting and software updates over the WAN or LAN connections
- LAN-to-LAN DDR routing over ISDN lines
- IP, IPX, and AppleTalk routing
- Transparent bridging
- IPX and SPX spoofing
- PPP compression and bandwidth-on-demand with load balancing for throughput up to 512 kbps
- HDLC and standards-based PPP
- Increased security with CHAP, PAP, packet filters, local password, and CLI/ANI
- Network management and monitoring through the console port or over the network using SNMP or Telnet



Software

The Cisco 1003 and Cisco 1004 routers support the following Cisco IOS releases:

- Cisco IOS Release 11.1 feature sets: Table 196
- Cisco IOS Release 11.0 feature sets: Table 197
- Cisco IOS Release 10.3 feature sets: Table 198

The software is available on 2-MB or 4-MB Flash ROM cards or on diskettes.

Table 196 Cisco IOS Release 11.1 Feature Sets—Cisco 1003 and Cisco 1004 Routers

Category	IP Routing	IP/IPX Routing	IP/AppleTalk Routing	IP/IPX/AppleTalk Routing
LAN support	IP, transparent bridging, GRE	IP, transparent bridging, GRE, Novell IPX	IP, transparent bridging, GRE, AppleTalk Phase 1 and 2	IP, transparent bridging, GRE, Novell IPX, AppleTalk Phase 1 and 2
WAN services	HDLC, PPP ¹ , ISDN ²	HDLC, PPP ¹ , ISDN ²	HDLC, PPP ¹ , ISDN ²	HDLC, PPP ¹ , ISDN ²
WAN optimization	Header and link compression, dial-on-demand, dial backup, bandwidth-on-demand ³ , custom and priority queuing, weighted fair queuing, snapshot routing	Header ⁴ and link compression, dial-on-demand, dial backup, bandwidth-on-demand ³ , custom and priority queuing, weighted fair queuing, snapshot routing	Header and link compression, dial-on-demand, dial backup, bandwidth-on-demand ³ , custom and priority queuing, weighted fair queuing, snapshot routing	Header ⁴ and link compression, dial-on-demand, dial backup, bandwidth-on-demand ³ , custom and priority queuing, weighted fair queuing, snapshot routing
IP routing	RIP, RIP Version 2, IGRP, Enhanced IGRP	RIP, RIP Version 2, IGRP, Enhanced IGRP	RIP, RIP Version 2, IGRP, Enhanced IGRP	RIP, RIP Version 2, IGRP, Enhanced IGRP
Other routing	—	IPX RIP	RTMP	IPX RIP, RTMP
Management	SNMP, Telnet	SNMP, Telnet	SNMP, Telnet	SNMP, Telnet
Security	Access lists, extended access lists, access security, Lock and Key	Access lists, extended access lists, access security, Lock and Key	Access lists, extended access lists, access security, Lock and Key	Access lists, extended access lists, access security, Lock and Key
Protocol translation	—	—	—	—
Remote node	—	—	—	—
Terminal services	—	—	—	—
Software Product Numbers for the Cisco 1003⁵:				
2-MB Flash ROM card	SF-1003C2-xx.x.x or SF-1003C2-xx.x.x=	SF-1003B2-xx.x.x or SF-1003B2-xx.x.x=	SF-1003E2-xx.x.x or SF-1003E2-xx.x.x=	SF-1003A2-xx.x.x or SF-1003A2-xx.x.x=
4-MB Flash ROM card	SF-1003C4-xx.x.x or SF-1003C4-xx.x.x=	SF-1003B4-xx.x.x or SF-1003B4-xx.x.x=	SF-1003E4-xx.x.x or SF-1003E4-xx.x.x=	SF-1003A4-xx.x.x or SF-1003A4-xx.x.x=
DOS diskette	SW-1003C-xx.x.x or SW-1003C-xx.x.x=	SW-1003B-xx.x.x or SW-1003B-xx.x.x=	SW-1003E-xx.x.x or SW-1003E-xx.x.x=	SW-1003A-xx.x.x or SW-1003A-xx.x.x=
Upgrade to IP/IPX	—	SW-1003B-xx.x.x=	—	—
Upgrade to IP/AppleTalk	—	—	SW-1003E-xx.x.x=	—
Upgrade to IP/IPX/AppleTalk	—	—	—	SW-1003CA-xx.x.x=

Category	IP Routing	IP/IPX Routing	IP/AppleTalk Routing	IP/IPX/AppleTalk Routing
Software Product Numbers for the Cisco 1004⁵				
2-MB Flash ROM card	SF-1004C2-xx.x.x or SF-1004C2-xx.x.x=	SF-1004B2-xx.x.x or SF-1004B2-xx.x.x=	SF-1004E2-xx.x.x or SF-1004E2-xx.x.x=	SF-1004A2-xx.x.x or SF-1004A2-xx.x.x=
4-MB Flash ROM card	SF-1004C4-xx.x.x or SF-1004C4-xx.x.x=	SF-1004B4-xx.x.x or SF-1004B4-xx.x.x=	SF-1004E4-xx.x.x or SF-1004E4-xx.x.x=	SF-1004A4-xx.x.x or SF-1004A4-xx.x.x=
DOS diskette	SW-1004C-xx.x.x or SW-1004C-xx.x.x=	SW-1004B-xx.x.x or SW-1004B-xx.x.x=	SW-1004E-xx.x.x or SW-1004E-xx.x.x=	SW-1004A-xx.x.x or SW-1004A-xx.x.x=
Upgrade to IP/IPX	—	SW-1004B-xx.x.x=	—	—
Upgrade to IP/AppleTalk	—	—	SW-1004E-xx.x.x=	—
Upgrade to IP/IPX/AppleTalk	—	—	—	SW-1004CA-xx.x.x=

1. PPP includes support for LAN protocols supported by the feature set, PAP and CHAP authentication, PPP compression, and Multilink PPP.

2. ISDN support includes calling line identification (CLI/ANI), ISDN subaddressing, and applicable WAN optimization features.

3. Bandwidth on demand means two B channel calls to the same destination.

4. IPX header compression (RFC 1553) is available with Cisco IOS Release 11.1(1) and later releases.

5. Product numbers that start with “SW” are for floppy diskettes and require a TFTP server. Product numbers that start with “SF” are for Flash memory cards and do not require a TFTP server. Substitute the Cisco IOS release number for xx.x.x in the product number (for example, SF-1003C2-11.1.1).

Table 197 Cisco IOS Release 11.0 Feature Sets—Cisco 1003 and Cisco 1004 Routers

Category	IP Routing ¹	IP/IPX Routing ¹	IP/AppleTalk Routing ¹	IP/IPX/AppleTalk Routing ¹
LAN support	IP, transparent bridging, GRE	IP, transparent bridging, GRE, Novell IPX	IP, transparent bridging, GRE, AppleTalk Phase 1 and 2	IP, transparent bridging, GRE, Novell IPX, AppleTalk Phase 1 and 2
WAN services	HDLC, PPP ² , ISDN ³	HDLC, PPP ² , ISDN ³	HDLC, PPP ² , ISDN ³	HDLC, PPP ² , ISDN ³
WAN optimization	Header and link compression, dial-on-demand, dial backup, bandwidth-on-demand, custom and priority queuing, weighted fair queuing, snapshot routing	Header and link compression, dial-on-demand, dial backup, bandwidth-on-demand, custom and priority queuing, weighted fair queuing, snapshot routing	Header and link compression, dial-on-demand, dial backup, bandwidth-on-demand, custom and priority queuing, weighted fair queuing, snapshot routing	Header and link compression, dial-on-demand, dial backup, bandwidth-on-demand, custom and priority queuing, weighted fair queuing, snapshot routing
IP routing	RIP, IGRP, Enhanced IGRP	RIP, IGRP, Enhanced IGRP	RIP, IGRP, Enhanced IGRP	RIP, IGRP, Enhanced IGRP
Other routing	—	IPX RIP	RTMP	IPX RIP, RTMP
Management	SNMP, Telnet	SNMP, Telnet	SNMP, Telnet	SNMP, Telnet
Security	Access lists, extended access lists, access security	Access lists, extended access lists, access security	Access lists, extended access lists, access security	Access lists, extended access lists, access security
Protocol translation	—	—	—	—
Remote node	—	—	—	—
Terminal services	—	—	—	—

Cisco 1000 Series

Category	IP Routing ¹	IP/IPX Routing ¹	IP/AppleTalk Routing ¹	IP/IPX/AppleTalk Routing ¹
Software Product Numbers for the Cisco 1003⁴:				
2-MB Flash ROM card	SF-1003C2-xx.x.x or SF-1003C2-xx.x.x=	SF-1003B2-xx.x.x or SF-1003B2-xx.x.x=	SF-1003E2-xx.x.x or SF-1003E2-xx.x.x=	SF-1003A2-xx.x.x or SF-1003A2-xx.x.x=
4-MB Flash ROM card	SF-1003C4-xx.x.x or SF-1003C4-xx.x.x=	SF-1003B4-xx.x.x or SF-1003B4-xx.x.x=	SF-1003E4-xx.x.x or SF-1003E4-xx.x.x=	SF-1003A4-xx.x.x or SF-1003A4-xx.x.x=
DOS diskette	SW-1003C-xx.x.x or SW-1003C-xx.x.x=	SW-1003B-xx.x.x or SW-1003B-xx.x.x=	SW-1003E-xx.x.x or SW-1003E-xx.x.x=	SW-1003A-xx.x.x or SW-1003A-xx.x.x=
Upgrade to IP/IPX	—	SW-1003B-xx.x.x=	—	—
Upgrade to IP/AppleTalk	—	—	SW-1003E-xx.x.x=	—
Upgrade to IP/IPX/AppleTalk	—	—	—	SW-1003CA-xx.x.x=
Software Product Numbers for the Cisco 1004⁴:				
2-MB Flash ROM card	SF-1004C2-xx.x.x or SF-1004C2-xx.x.x=	SF-1004B2-xx.x.x or SF-1004B2-xx.x.x=	SF-1004E2-xx.x.x or SF-1004E2-xx.x.x=	SF-1004A2-xx.x.x or SF-1004A2-xx.x.x=
4-MB Flash ROM card	SF-1004C4-xx.x.x or SF-1004C4-xx.x.x=	SF-1004B4-xx.x.x or SF-1004B4-xx.x.x=	SF-1004E4-xx.x.x or SF-1004E4-xx.x.x=	SF-1004A4-xx.x.x or SF-1004A4-xx.x.x=
DOS diskette	SW-1004C-xx.x.x or SW-1004C-xx.x.x=	SW-1004B-xx.x.x or SW-1004B-xx.x.x=	SW-1004E-xx.x.x or SW-1004E-xx.x.x=	SW-1004A-xx.x.x or SW-1004A-xx.x.x=
Upgrade to IP/IPX	—	SW-1004B-xx.x.x=	—	—
Upgrade to IP/AppleTalk	—	—	SW-1004E-xx.x.x=	—
Upgrade to IP/IPX/AppleTalk	—	—	—	SW-1004CA-xx.x.x=

1. Available with Cisco IOS Release 11.0(4) and later releases.

2. PPP includes support for LAN protocols supported by the feature set, PAP and CHAP authentication, PPP compression, and Multilink PPP.

3. ISDN support includes calling line identification (CLI/ANI), ISDN subaddressing, and applicable WAN optimization features.

4. Product numbers that start with “SW” are for floppy diskettes and require a TFTP server. Product numbers that start with “SF” are for Flash memory cards and do not require a TFTP server. Substitute the Cisco IOS release number for xx.x.x in the product number (for example, SF-1003C2-11.1.1).

Table 198 Cisco IOS Release 10.3 Feature Sets—Cisco 1003 and Cisco 1004 Routers

Category	IP Routing	IP/IPX/AppleTalk Routing
LAN support	IP, transparent bridging, GRE	IP, transparent bridging, GRE, Novell IPX, AppleTalk Phase 1 and 2
WAN services	HDLC, PPP ¹ , ISDN ²	HDLC, PPP ¹ , ISDN ²
WAN optimization	Header and link compression, dial-on-demand, dial backup, bandwidth-on-demand, custom and priority queuing, snapshot routing	Header and link compression, dial-on-demand, dial backup, bandwidth-on-demand, custom and priority queuing, snapshot routing
IP routing	RIP, IGRP, Enhanced IGRP	RIP, IGRP, Enhanced IGRP
Other routing	–	IPX RIP, RTMP
Management	SNMP, Telnet	SNMP, Telnet
Security	Access lists, extended access lists, access security	Access lists, extended access lists, access security
Protocol translation	–	–
Remote node	–	–
Terminal services	–	–
Software Product Numbers for the Cisco 1003³:		
2-MB Flash ROM card	SF-1003C2-xx.x.x or SF-1003C2-xx.x.x=	SF-1003A2-xx.x.x or SF-1003A2-xx.x.x=
4-MB Flash ROM card	SF-1003C4-xx.x.x or SF-1003C4-xx.x.x=	SF-1003A4-xx.x.x or SF-1003A4-xx.x.x=
DOS diskette	SW-1003C-xx.x.x or SW-1003C-xx.x.x=	SW-1003A-xx.x.x or SW-1003A-xx.x.x=
IP to IP/IPX/AT upgrade	–	SW-1003CA-xx.x.x=
Software Product Numbers for the Cisco 1004³:		
2-MB Flash ROM card	SF-1004C2-xx.x.x or SF-1004C2-xx.x.x=	SF-1004A2-xx.x.x or SF-1004A2-xx.x.x=
4-MB Flash ROM card	SF-1004C4-xx.x.x or SF-1004C4-xx.x.x=	SF-1004A4-xx.x.x or SF-1004A4-xx.x.x=
DOS diskette	SW-1004C-xx.x.x or SW-1004C-xx.x.x=	SW-1004A-xx.x.x or SW-1004A-xx.x.x=
IP to IP/IPX/AT upgrade	–	SW-1004CA-xx.x.x=

1. PPP includes support for LAN protocols supported by the feature set, PAP and CHAP authentication, and PPP compression.

2. ISDN support includes calling line identification (CLI/ANI), ISDN subaddressing, and applicable WAN optimization features.

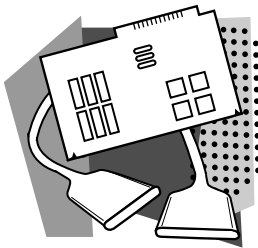
3. Product numbers that start with “SW” are for floppy diskettes and require a TFTP server. Product numbers that start with “SF” are for Flash memory cards and do not require a TFTP server. Substitute the Cisco IOS release number for xx.x.x in the product number (for example, SF-1003C2-10.3.6).

Adding a new feature set may require you to purchase additional memory. Table 199 lists the minimum memory requirements for Cisco IOS Release 11.1, 11.0, and 10.3 feature sets.

Table 199 Minimum Memory Requirements for Cisco IOS Release 11.1, 11.0, and 10.3—Cisco 1003 and Cisco 1004

Feature Set	Cisco IOS Release 11.1		Cisco IOS Release 11.0		Cisco IOS Release 10.3	
	Flash Memory ¹	Total DRAM Memory	Flash Memory ¹	Total DRAM Memory	Flash Memory ¹	Total DRAM Memory
IP	2 MB	4 MB	2 MB	4 MB	2 MB	4 MB
IP/IPX	2 MB	4 MB	2 MB	4 MB	—	—
IP/AppleTalk	2 MB	4 MB	2 MB	4 MB	—	—
IP/IPX/AppleTalk	2 MB	8 MB	2 MB	8 MB	2 MB	4 MB

1. Flash memory is optional. If you do not order Flash memory, the router must boot the software from a TFTP server on the Ethernet LAN.



Options

Options for the Cisco 1003 and Cisco 1004 routers are listed in Table 200. If a product number ends with an equal sign (=), the item can be ordered only as a spare. If a product number does not end with an equal sign, the item can be ordered as a spare or as a configurable part of a system order.

Table 200 Cisco 1003 and Cisco 1004 Options

Option	Product Number
Console cable	CAB-1000-CON=
AC power supply	PWR-1000-AC1=
4-MB to 8-MB DRAM upgrade	MEM-1003-8MD (Cisco 1003) MEM-1004-8MD (Cisco 1004)
8-MB DRAM SIMM	MEM-1000-8MD=

Cisco 1005 Serial Router

The Cisco 1005 router is a small, desktop router that connects small, remote sites with Ethernet LANs to synchronous WANs at speeds up to 2.048 Mbps or to asynchronous WANs at speeds up to 115.2 kbps.

Figure 92 Cisco 1005 Front Panel

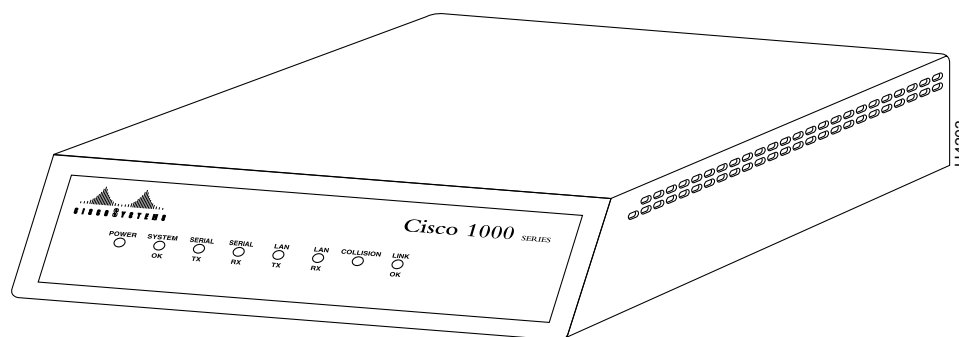


Figure 93 Cisco 1005 Rear Panel

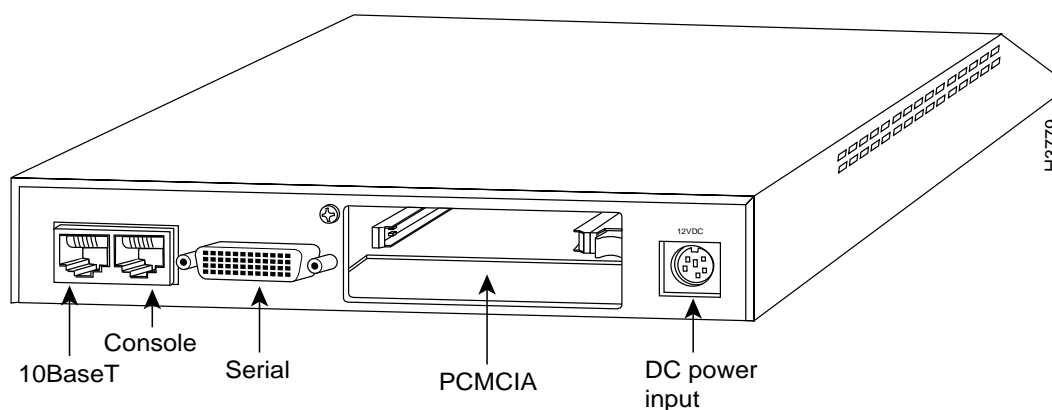


Table 201 Cisco 1005 Summary of Features

Characteristic	Feature
Supported network interfaces	Serial port (DB-60) ¹ Ethernet 10BaseT (RJ-45) Console port (RJ-45) (EIA/TIA-232)
Processor type	MC68360
Software	IP, IPX, AppleTalk routing and bridging over leased lines, Frame Relay, Switched 56, SMDs, and X.25. IP/IPX routing over asynchronous WAN links. See Table 203, Table 204, and Table 205.
Dimensions (H x W x D)	1.75 x 8.0 x 8.3" (4.4 x 21 x 20.3 cm)
Weight (average shipping)	6.0 lb (2.75 kg)
Product number	CISCO1005

1. The serial port supports asynchronous communications through an EIA/TIA-232 interface and synchronous communications through the following interfaces: EIA/TIA-232, EIA/TIA-449, V.35, X.21, and EIA-530.

Table 202 Cisco 1005 Environmental Specifications

Description	Specification
Power	12 VDC output, minimum 0.5A External power supply: 100 to 240 VAC at 50 to 60 Hz, 1.0A input
Operating temperature range	32 to 104°F (0 to 40°C)
Nonoperating temperature range	−40 to 185°F (−40 to 85°C)
Operating humidity (noncondensing)	10 to 90%

Standard Features

The Cisco 1005 router includes the following features:

- One Ethernet 10BaseT port (RJ-45)
- One console port (RJ-45)
- Console cable kit and power supply
- One serial port (DB-60) that supports permanent and switched synchronous WAN links up to 2.048 Mbps and asynchronous WAN links up to 115.2 kbps
- One slot for an optional PCMCIA Flash memory card
- Software boot using TFTP over an Ethernet LAN connection or by using the optional Flash memory card
- IP, IPX, and AppleTalk routing
- Transparent bridging (over synchronous WAN links only)
- Support for the following WAN encapsulations: PPP, HDLC, LAPB, Frame Relay, SMDS, and X.25
- Router management through the console port or over the network using SNMP or Telnet
- AutoInstall for downloading configuration files automatically over a WAN

Software

The Cisco 1005 router supports the following software releases:

- Cisco IOS Release 11.1 feature sets: Table 203
- Cisco IOS Release 11.0 feature sets: Table 204
- Cisco IOS Release 10.3 feature sets: Table 205

The Cisco IOS Releases 11.0 and 11.1 feature sets support the new asynchronous services which provide dial-on-demand routing over asynchronous basic telephone lines on the Cisco 1005 router. Unlike other Cisco IOS feature sets available for the Cisco 1005 router, these asynchronous images do not support bridging.

The software is available on 2-MB or 4-MB Flash ROM cards or on diskettes.

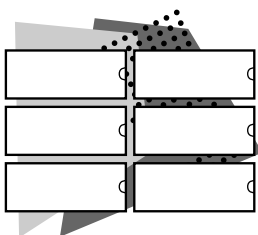


Table 203 Cisco IOS Release 11.1 Feature Sets—Cisco 1005 Router

Category	IP Routing	IP/IPX Routing	IP/AppleTalk Routing	IP/IPX/AppleTalk Routing	IP/OPSF/PIM Routing ¹
LAN support	IP, transparent bridging, GRE ²	IP, transparent bridging, GRE, Novell IPX ²	IP, transparent bridging, GRE, AppleTalk Phase 1 and 2	IP, transparent bridging, GRE, Novell IPX, AppleTalk Phase 1 and 2	IP, transparent bridging, GRE
WAN services	Option 1 ³ : HDLC, PPP ⁴ , SMDS, Frame Relay, Switched 56, X.25	Option 1 ³ : HDLC, PPP ⁴ , SMDS, Frame Relay, Switched 56 Option 2 ⁵ : X.25	Option 1 ³ : HDLC, PPP ⁴ , SMDS, Frame Relay, Switched 56 Option 2 ⁵ : X.25	Option 1 ³ : HDLC, PPP ⁴ , SMDS, Frame Relay, Switched 56 Option 2 ⁵ : X.25	Option 1 ³ : HDLC, PPP ⁴ , SMDS, Frame Relay, Switched 56, X.25
WAN optimization	Option 3: Async, PPP, SLIP, Header, link, and payload compression ⁶ ; dial-on-demand; custom and priority queuing; weighted-fair queuing	Option 3: Async, PPP, SLIP, Header ⁷ , link, and payload compression ⁶ ; dial-on-demand ⁸ ; custom and priority queuing; weighted-fair queuing	Header, link, and payload compression ⁶ ; dial-on-demand ⁸ ; custom and priority queuing; weighted-fair queuing	Header ⁷ , link, and payload compression ⁶ ; dial-on-demand ⁸ ; custom and priority queuing; weighted-fair queuing	Header, link, and payload compression ⁶ ; dial-on-demand; custom and priority queuing; weighted-fair queuing
IP routing	RIP, RIP Version 2, IGRP, Enhanced IGRP	RIP, RIP Version 2, IGRP, Enhanced IGRP	RIP, RIP Version 2, IGRP, Enhanced IGRP	RIP, RIP Version 2, IGRP, Enhanced IGRP	RIP, RIP Version 2, IGRP, Enhanced IGRP, OPSF, PIM
Other routing	—	IPX RIP	RTMP	IPX RIP, RTMP	—
Management	SNMP, Telnet	SNMP, Telnet	SNMP, Telnet	SNMP, Telnet	SNMP, Telnet
Security	Access lists, extended access lists, access security, Lock and Key	Access lists, extended access lists, access security, Lock and Key	Access lists, extended access lists, access security, Lock and Key	Access lists, extended access lists, access security, Lock and Key	Access lists, extended access lists, access security, Lock and Key
Protocol translation	—	—	—	—	—
Remote node	—	—	—	—	—
Terminal services	—	—	—	—	—
Software Product Numbers⁹:		WAN Option 1 ³	WAN Option 1 ³	WAN Option 1 ³	
2-MB Flash ROM card	SF-1005C2-xx.x.x or SF-1005C2-xx.x.x=	SF-1005B2-xx.x.x or SF-1005B2-xx.x.x=	SF-1005E2-xx.x.x or SF-1005E2-xx.x.x=	SF-1005A2-xx.x.x or SF-1005A2-xx.x.x=	SF-1005M2-xx.x.x or SF-1005M2-xx.x.x=
4-MB Flash ROM card	SF-1005C4-xx.x.x or SF-1005C4-xx.x.x=	SF-1005B4-xx.x.x or SF-1005B4-xx.x.x=	SF-1005E4-xx.x.x or SF-1005E4-xx.x.x=	SF-1005A4-xx.x.x or SF-1005A4-xx.x.x=	SF-1005M4-xx.x.x or SF-1005M4-xx.x.x=
DOS diskette	SW-1005C-xx.x.x or SW-1005C-xx.x.x=	SW-1005B-xx.x.x or SW-1005B-xx.x.x=	SW-1005E-xx.x.x or SW-1005E-xx.x.x=	SW-1005A-xx.x.x or SW-1005A-xx.x.x=	SW-1005M-xx.x.x or SW-1005M-xx.x.x=
Upgrade to IP/IPX	—	SW-1005B-xx.x.x=	—	—	—
Upgrade to IP/AppleTalk	—	—	SW-1005E-xx.x.x=	—	—

Cisco 1000 Series

Category	IP Routing	IP/IPX Routing	IP/AppleTalk Routing	IP/IPX/AppleTalk Routing	IP/OPSF/PIM Routing ¹
Upgrade to IP/IPX/AppleTalk	—	—	—	SW-1005CA-xx.x.x=	—
Software Product Numbers⁹:		WAN Option 2 ⁵	WAN Option 2 ⁵	WAN Option 2 ⁵ :	—
2-MB Flash ROM card	SF-1005C2-xx.x.x or SF-1005C2-xx.x.x=	SF-1005G2-xx.x.x or SF-1005G2-xx.x.x=	SF-1005F2-xx.x.x or SF-1005F2-xx.x.x=	SF-1005D2-xx.x.x or SF-1005D2-xx.x.x=	—
4-MB Flash ROM card	SF-1005C4-xx.x.x or SF-1005C4-xx.x.x=	SF-1005G4-xx.x.x or SF-1005G4-xx.x.x=	SF-1005F4-xx.x.x or SF-1005F4-xx.x.x=	SF-1005D4-xx.x.x or SF-1005D4-xx.x.x=	—
DOS diskette	SW-1005C-xx.x.x or SW-1005C-xx.x.x=	SW-1005G-xx.x.x or SW-1005G-xx.x.x=	SW-1005F-xx.x.x or SW-1005F-xx.x.x=	SW-1005D-xx.x.x or SW-1005D-xx.x.x=	—
Upgrade to IP/IPX	—	SW-1005G-xx.x.x==	—	—	—
Upgrade to IP/AppleTalk	—	—	SW-1005F-xx.x.x=	—	—
Upgrade to IP/IPX/AppleTalk	—	—	—	SW-1005CA-xx.x.x=	—
Software Product Numbers⁹:	IP/Async WAN Option 3	IP/IPX Async WAN Option 3			
2-MB Flash ROM card	SF-1005H2-xx.x.x or SF-1005H2-xx.x.x=	SF-1005J2-xx.x.x or SF-1005J2-xx.x.x=	—	—	—
4-MB Flash ROM card	SF-1005H4-xx.x.x or SF-1005H4-xx.x.x=	SF-1005J4-xx.x.x or SF-1005J4-xx.x.x=	—	—	—
DOS diskette	SW-1005H-xx.x.x or SW-1005H-xx.x.x=	SW-1005J-xx.x.x or SW-1005J-xx.x.x=	—	—	—
Upgrade to IP/IPX	—	SW-1005J-xx.x.x=	—	—	—

1. Includes the current IP image with the OPSF routing protocol and the Protocol Independent Multicast (PIM) protocol.

2. Bridging, AppleTalk, and remote node functionality are not supported in asynchronous software sets.

3. The feature set is available with HDLC, PPC, SMDS, and Frame Relay, but without X.25.

4. PPP includes support for LAN protocols supported by the feature set, PAP and CHAP authentication, PPP compression, and Multilink PPP.

5. The feature set is available with X.25 only.

6. X.25 and Frame Relay payload compression. Frame Relay payload compression is available with Cisco IOS Release 11.0(4) and later releases.

7. IPX header compression available with Cisco IOS Release 11.1(1) and later releases.

8. Dial-on-demand is available with WAN services Option 1 (HDLC, PPP, SMDS, Frame Relay, and Switched 56) only.

9. Product numbers that start with “SW” are for floppy diskettes and require a TFTP server. Product numbers that start with “SF” are for Flash memory cards and do not require a TFTP server. Substitute the Cisco IOS release number for xx.x.x in the product number (for example, SF-1005C2-11.1.1).

Table 204 Cisco IOS Release 11.0 Feature Sets—Cisco 1005 Router

Category	IP Routing¹	IP/IPX Routing¹	IP/AppleTalk Routing¹	IP/IPX/AppleTalk Routing¹	IP/OPSF/PIM Routing²
LAN support	IP, transparent bridging, GRE ³	IP, transparent bridging, GRE ³ , Novell IPX	IP, transparent bridging, GRE, AppleTalk Phase 1 and 2	IP, transparent bridging, GRE, Novell IPX, AppleTalk Phase 1 and 2	IP, transparent bridging, GRE
WAN services	Option 1 ⁴ : HDLC, PPP ⁵ , SMDS, Frame Relay, Switched 56, X.25	Option 1 ⁴ : HDLC, PPP ⁵ , SMDS, Frame Relay, Switched 56	Option 1 ⁴ : HDLC, PPP ⁵ , SMDS, Frame Relay, Switched 56	Option 1 ⁴ : HDLC, PPP ⁵ , SMDS, Frame Relay, Switched 56	Option 1 ⁴ : HDLC, PPP ⁵ , SMDS, Frame Relay, Switched 56, X.25
WAN optimization	Header, link, and payload compression ⁷ ; dial-on-demand; custom and priority queuing; weighted-fair queuing; snapshot routing	Option 2 ⁶ : X.25 Header, link, and payload compression ⁷ ; dial-on-demand ⁸ ; custom and priority queuing; weighted-fair queuing; snapshot routing	Option 2 ⁶ : X.25 Header, link, and payload compression ⁷ ; dial-on-demand ⁸ ; custom and priority queuing; weighted-fair queuing; snapshot routing	Option 2 ⁶ : X.25 Header, link, and payload compression ⁷ ; dial-on-demand ⁸ ; custom and priority queuing; weighted-fair queuing; snapshot routing	Header, link, and payload compression ⁷ ; dial-on-demand; custom and priority queuing; weighted-fair queuing; snapshot routing
IP routing	RIP, IGRP, Enhanced IGRP	RIP, IGRP, Enhanced IGRP	RIP, IGRP, Enhanced IGRP	RIP, IGRP, Enhanced IGRP	RIP, IGRP, Enhanced IGRP, OPSF, PIM
Other routing	–	IPX RIP	RTMP	IPX RIP, RTMP	–
Management	SNMP, Telnet	SNMP, Telnet	SNMP, Telnet	SNMP, Telnet	SNMP, Telnet
Security	Access lists, extended access lists, access security	Access lists, extended access lists, access security	Access lists, extended access lists, access security	Access lists, extended access lists, access security	Access lists, extended access lists, access security
Protocol translation	–	–	–	–	–
Remote node	–	–	–	–	–
Terminal services	–	–	–	–	–

Cisco 1000 Series

Category	IP Routing ¹	IP/IPX Routing ¹	IP/AppleTalk Routing ¹	IP/IPX/AppleTalk Routing ¹	IP/OPSF/PIM Routing ²
Software Product Numbers⁹:		Option 1 ⁴ :	Option 1 ⁴ :	Option 1 ⁴ :	
2-MB Flash ROM card	SF-1005C2-xx.x.x or SF-1005C2-xx.x.x=	SF-1005B2-xx.x.x or SF-1005B2-xx.x.x=	SF-1005E2-xx.x.x or SF-1005E2-xx.x.x=	SF-1005A2-xx.x.x or SF-1005A2-xx.x.x=	SF-1005M2-xx.x.x or SF-1005M2-xx.x.x=
4-MB Flash ROM card	SF-1005C4-xx.x.x or SF-1005C4-xx.x.x=	SF-1005B4-xx.x.x or SF-1005B4-xx.x.x=	SF-1005E4-xx.x.x or SF-1005E4-xx.x.x=	SF-1005A4-xx.x.x or SF-1005A4-xx.x.x=	SF-1005M4-xx.x.x or SF-1005M4-xx.x.x=
IP feature set on DOS diskette	SW-1005C-xx.x.x or SW-1005C-xx.x.x=	SW-1005B-xx.x.x or SW-1005B-xx.x.x=	SW-1005E-xx.x.x or SW-1005E-xx.x.x=	SW-1005A-xx.x.x or SW-1005A-xx.x.x=	SW-1005M-xx.x.x or SW-1005MC-xx.x.x=
Upgrade to IP/IPX	–	SW-1005B-xx.x.x=	–	–	–
Upgrade to IP/AppleTalk	–	–	SW-1005E-xx.x.x=	–	–
Upgrade to IP/IPX/AppleTalk	–	–	–	SW-1005CA-xx.x.x=	–
Software Product Numbers⁹:	IP/Async WAN Option 3	IP/IPX Async WAN Option 3			
2-MB Flash ROM card	SF-1005H2-xx.x.x or SF-1005H2-xx.x.x=	SF-1005J2-xx.x.x or SF-1005J2-xx.x.x=	–	–	–
4-MB Flash ROM card	SF-1005H4-xx.x.x or SF-1005H4-xx.x.x=	SF-1005J4-xx.x.x or SF-1005J4-xx.x.x=	–	–	–
DOS diskette	SW-1005H-xx.x.x or SW-1005H-xx.x.x=	SW-1005J-xx.x.x or SW-1005J-xx.x.x=	–	–	–
Upgrade to IP/IPX	–	SW-1005J-xx.x.x=	–	–	–

Category	IP Routing ¹	IP/IPX Routing ¹	IP/AppleTalk Routing ¹	IP/IPX/AppleTalk Routing ¹	IP/OPSF/PIM Routing ²
Software Product Numbers⁹:		Option 2 ⁶	Option 2 ⁶	Option 2 ⁶ :	
2-MB Flash ROM card	SF-1005C2-xx.x.x or SF-1005C2-xx.x.x=	SF-1005G2-xx.x.x or SF-1005G2-xx.x.x=	SF-1005F2-xx.x.x or SF-1005F2-xx.x.x=	SF-1005D2-xx.x.x or SF-1005D2-xx.x.x=	—
4-MB Flash ROM card	SF-1005C4-xx.x.x or SF-1005C4-xx.x.x=	SF-1005G2-xx.x.x or SF-1005G2-xx.x.x=	SF-1005F4-xx.x.x or SF-1005F4-xx.x.x=	SF-1005D4-xx.x.x or SF-1005D4-xx.x.x=	—
IP feature set on DOS diskette	SW-1005C-xx.x.x or SW-1005C-xx.x.x=	SW-1005G-xx.x.x or SW-1005G-xx.x.x=	SW-1005F-xx.x.x or SW-1005F-xx.x.x=	SW-1005D-xx.x.x or SW-1005D-xx.x.x=	—
Upgrade to IP/IPX	—	—	SW-1005F-xx.x.x=	—	—
Upgrade to IP/AppleTalk	—	—	—	SW-1005CA-xx.x.x=	—
Upgrade to IP/IPX/AppleTalk	—	—	—	—	—

1. Available with Cisco IOS Release 11.0(4) and later releases.

2. Includes the current IP image with the OPSF routing protocol and the Protocol Independent Multicast (PIM) protocol.

3. Bridging, AppleTalk, and remote node functionality are not supported in asynchronous software sets.

4. This feature set is available with HDLC, PPP, SMDS, and Frame Relay, but without X.25.

5. PPP includes support for LAN protocols supported by the feature set, PAP and CHAP authentication, and PPP compression. Multilink PPP is included with Cisco IOS Release 11.0(4) and later releases.

6. The feature set is available with X.25 only.

7. X.25 and Frame Relay payload compression. Frame Relay payload compression is available with Cisco IOS Release 11.0(4) and later releases.

8. Dial-on-demand is available with WAN services Option 1 (HDLC, PPP, SMDS, Frame Relay, and Switched 56) only.

9. Product numbers that start with “SW” are for floppy diskettes and require a TFTP server. Product numbers that start with “SF” are for Flash memory cards and do not require a TFTP server. Substitute the Cisco IOS release number for xx.x.x in the product number (for example, SF-1005C2-10.3.6).

Table 205 Cisco IOS Release 10.3 Feature Sets—Cisco 1005 Router

Category	IP Routing	IP/IPX/AppleTalk Routing	IP/IPX/AppleTalk Routing
LAN support	IP, transparent bridging, GRE	IP, transparent bridging, GRE, Novell IPX, AppleTalk Phase 1 and 2	IP, transparent bridging, GRE, Novell IPX, AppleTalk Phase 1 and 2
WAN services	HDLC, PPP ¹ , SMDS, Frame Relay, Switched 56, X.25	HDLC, PPP ¹ , SMDS, Frame Relay, Switched 56	X.25
WAN optimization	Header, link, and payload compression ² ; dial-on-demand; custom and priority queuing; snapshot routing	Header and link compression, dial-on-demand, custom and priority queuing, snapshot routing	Header, link, and payload compression ² ; dial-on-demand; custom and priority queuing; snapshot routing
IP routing	RIP, IGRP, Enhanced IGRP	RIP, IGRP, Enhanced IGRP	RIP, IGRP, Enhanced IGRP
Other routing	—	IPX RIP, RTMP	IPX RIP, RTMP
Management	SNMP, Telnet	SNMP, Telnet	SNMP, Telnet
Security	Access lists, extended access lists, access security	Access lists, extended access lists, access security	Access lists, extended access lists, access security
Protocol translation	—	—	—
Remote node	—	—	—
Terminal services	—	—	—
Software Product Numbers³:			

Category	IP Routing	IP/IPX/AppleTalk Routing	IP/IPX/AppleTalk Routing
2-MB Flash ROM card	SF-1005C2-xx.x.x or SF-1005C2-xx.x.x=	SF-1005A2-xx.x.x or SF-1005A2-xx.x.x=	SF-1005D2-xx.x.x or SF-1005D2-xx.x.x=
4-MB Flash ROM card	SF-1005C4-xx.x.x or SF-1005C4-xx.x.x=	SF-1005A4-xx.x.x or SF-1005A4-xx.x.x=	SF-1005D4-xx.x.x or SF-1005D4-xx.x.x=
IP feature set on DOS diskette	SW-1005C-xx.x.x or SW-1005C-xx.x.x=	SW-1005A-xx.x.x or SW-1005A-xx.x.x=	SW-1005D-xx.x.x
IP to IP/IPX/AppleTalk upgrade	—	SW-1005CA-xx.x.x=	SW-1005CD-xx.x.x=

1. PPP includes support for LAN protocols supported by the feature set, PAP and CHAP authentication, and PPP compression.

2. X.25 payload compression.

3. Product numbers that start with “SW” are for floppy diskettes and require a TFTP server. Product numbers that start with “SF” are for Flash memory cards and do not require a TFTP server. Substitute the Cisco IOS release number for xx.x.x in the product number (for example, SF-1005C2-10.3.6).

Adding a feature set may require you to purchase additional memory. Table 206 lists the minimum memory requirements for Cisco IOS Release 11.1, 11.0, and 10.3 feature sets.

Table 206 Minimum Memory Requirements for Cisco IOS Release 11.1, 11.0, and 10.3—Cisco 1005 Router

Feature Set	Cisco IOS Release 11.1		Cisco IOS Release 11.0		Cisco IOS Release 10.3	
	Flash Memory ¹	Total DRAM Memory	Flash Memory ¹	Total DRAM Memory	Flash Memory ¹	Total DRAM Memory
IP	2 MB	4 MB	2 MB	4 MB	2 MB	4 MB
IP/IPX	2 MB	4 MB	2 MB	4 MB	—	—
IP/IPX with X.25	2 MB	4 MB	2 MB	4 MB	—	—
IP/AppleTalk	2 MB	4 MB	2 MB	4 MB	—	—
IP/AppleTalk with X.25	2 MB	4 MB	2 MB	4 MB	—	—
IP/IPX/AppleTalk	2 MB	8 MB	2 MB	8 MB	2 MB	4 MB
IP/IPX/AppleTalk with X.25	2 MB	8 MB	2 MB	8 MB	2 MB	4 MB

1. Flash memory is optional. If you do not order Flash memory, the router must boot the software from a TFTP server on the Ethernet LAN.



Options

Options for the Cisco 1005 are listed in Table 207. If a product number ends with an equal sign (=), the item can be ordered only as a spare. If a product number does not end with an equal sign, the item can be ordered as a spare or as a configurable part of a system order.

Table 207 Cisco 1005 Options

Option	Product Number
Console cable	CAB-1000-CON=
AC power supply	PWR-1000-AC1=
EIA/TIA-232 male DTE interface, 10' (3 m)	CAB-232MT
EIA/TIA-449 male DTE interface, 10' (3 m)	CAB-449MT
EIA-530 male DTE interface, 10' (3 m)	CAB-530MT
V.35 male DTE interface, 10' (3 m)	CAB-V35MT
X.21 male DTE interface, 10' (3 m)	CAB-X21MT
4-MB to 8-MB DRAM upgrade	MEM-1005-8MD
8-MB DRAM SIMM	MEM-1000-8MD=

